IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Shi et al.

Application Serial No.: Not assigned

Art Unit: Not assigned

Filed: Concurrently herewith

Examiner: Not assigned

For: 18 Human Secreted Proteins

Attorney Docket No.: PF512P1

STATEMENT UNDER 37 C.F.R. 1.821(f)

Assistant Commissioner for Patents Washington, D.C. 20231

Sir:

Applicants hereby certify that the hard copy of the sequence listing being filed concurrently herewith and the enclosed computer-readable form of such sequence listing are identical.

Respectfully submitted,

Date: January 25,200)

Kenley K. Hoover

Reg. No. 40,302

Attorney for Applicants

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9410 Key West Avenue Rockville, Maryland 20850 Telephone: (301) 610-5771

KKH/SA/ur

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<150> PCT/US00/22350
<151> 2000-08-15
<150> 60/148,759
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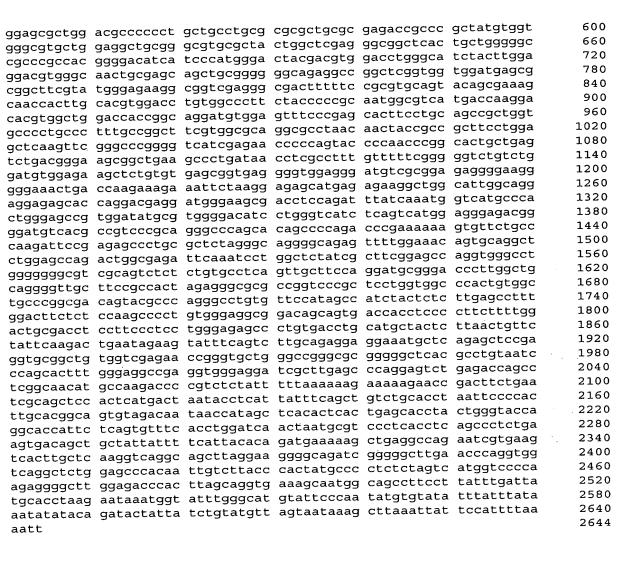
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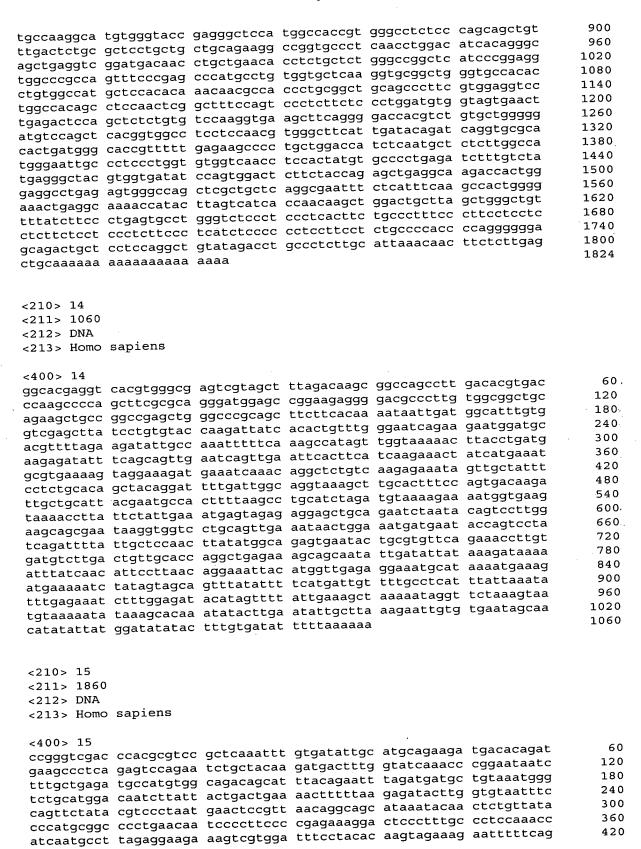
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2139

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<212> PRT

<213> Homo sapiens

<400> 30

Met Lys Ala Leu Gly Ala Val Leu Leu Ala Leu Leu Leu Cys Gly Arg
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Pro Gly Arg Gly Gln Thr Gln Gln Glu Glu Glu Glu Glu Asp Glu Asp 20 25 30

His Gly Pro Asp Asp Tyr Asp Glu Glu Asp Glu Asp Glu Val Glu Glu 35 40 45

Glu Glu Thr Asn Arg Leu Pro Gly Gly Arg Ser Arg Val Leu Leu Arg

Cys Tyr Thr Cys Lys Ser Leu Pro Arg Asp Glu Arg Cys Asn Leu Thr 65 70 75 80

Gln Asn Cys Ser His Gly Gln Thr Cys Thr Thr Leu Ile Ala His Gly 85 90 95

Asn Thr Glu Ser Gly Leu Leu Thr Thr His Ser Thr Trp Cys Thr Asp 100 105 110

Ser Cys Gln Pro Ile Thr Lys Thr Val Glu Gly Thr Gln Val Thr Met 115 120 125

Thr Cys Cys Gln Ser Ser Leu Cys Asn Val Pro Pro Trp Gln Ser Ser 130 135 140

Arg Val Gln Asp Pro Thr Gly Lys Gly Ala Gly Gly Pro Arg Gly Ser 145 150 155 160

Ser Glu Thr Val Gly Ala Ala Leu Leu Leu Asn Leu Leu Ala Gly Leu 165 170 175

Gly Ala Met Gly Ala Arg Arg Pro 180

<210> 31

<211> 352

<212> PRT

<213> Homo sapiens

<400> 31

Met Val Glu Ala Leu Arg Ala Gly Ser Ala Arg Leu Val Ala Ala Pro 1 5 10 15

Val Ala Thr Ala Asn Pro Ala Arg Cys Leu Ala Leu Asn Val Ser Leu 20 25 30

Arg Glu Trp Thr Ala Arg Tyr Gly Ala Ala Pro Ala Ala Pro Arg Cys
35 40 45

Asp Ala Leu Asp Gly Asp Ala Val Val Leu Leu Arg Ala Arg Asp Leu
50 55 60

- Phe Asn Leu Ser Ala Pro Leu Ala Arg Pro Val Gly Thr Ser Leu Phe 65 70 75 80
- Leu Gln Thr Ala Leu Arg Gly Trp Ala Val Gln Leu Leu Asp Leu Thr 85 90 95
- Phe Ala Ala Arg Gln Pro Pro Leu Ala Thr Ala His Ala Arg Trp
 100 105 110
- Lys Ala Glu Arg Glu Gly Arg Ala Arg Arg Ala Ala Leu Leu Arg Ala 115 120 125
- Leu Gly Ile Arg Leu Val Ser Trp Glu Gly Gly Arg Leu Glu Trp Phe
 130 140
- Gly Cys Asn Lys Glu Thr Thr Arg Cys Phe Gly Thr Val Val Gly Asp 145 150 155 160
- Thr Pro Ala Tyr Leu Tyr Glu Glu Arg Trp Thr Pro Pro Cys Cys Leu 165 170 175
- Arg Ala Leu Arg Glu Thr Ala Arg Tyr Val Val Gly Val Leu Glu Ala 180 185 190
- Ala Gly Val Arg Tyr Trp Leu Glu Gly Gly Ser Leu Leu Gly Ala Ala 195 200 205
- Arg His Gly Asp Ile Ile Pro Trp Asp Tyr Asp Val Asp Leu Gly Ile 210 215 220
- Tyr Leu Glu Asp Val Gly Asn Cys Glu Gln Leu Arg Gly Ala Glu Ala 225 230 235 240
- Gly Ser Val Val Asp Glu Arg Gly Phe Val Trp Glu Lys Ala Val Glu 245 250 255
- Gly Asp Phe Phe Arg Val Gln Tyr Ser Glu Ser Asn His Leu His Val 260 265 270
- Asp Leu Trp Pro Phe Tyr Pro Arg Asn Gly Val Met Thr Lys Asp Thr 275 280 285
- Trp Leu Asp His Arg Gln Asp Val Glu Phe Pro Glu His Phe Leu Gln 290 295 300
- Pro Leu Val Pro Leu Pro Phe Ala Gly Phe Val Ala Gln Ala Pro Asn 305 310 315 320
- Asn Tyr Arg Arg Phe Leu Glu Leu Lys Phe Gly Pro Gly Val Ile Glu 325 330 335
- Asn Pro Gln Tyr Pro Asn Pro Ala Leu Leu Ser Leu Thr Gly Ser Gly 340 345 350

<210> 32

<211> 448

<212> PRT

<213> Homo sapiens

<400> 32

Met Ala Trp Ala Ser Arg Leu Gly Leu Leu Leu Ala Leu Leu Leu Pro 1 5 10 15

Val Val Gly Ala Ser Thr Pro Gly Thr Val Val Arg Leu Asn Lys Ala

Ala Leu Ser Tyr Val Ser Glu Ile Gly Lys Ala Pro Leu Gln Arg Ala
35 40 45

Leu Gln Val Thr Val Pro His Phe Leu Asp Trp Ser Gly Glu Ala Leu 50 55 60

Gln Pro Thr Arg Ile Arg Ile Leu Asn Val His Val Pro Arg Leu His 65 70 75 80

Leu Lys Phe Ile Ala Gly Phe Gly Val Arg Leu Leu Ala Ala Asn 85 90 95

Phe Thr Phe Lys Val Phe Arg Ala Pro Glu Pro Leu Glu Leu Thr Leu 100 105 110

Pro Val Glu Leu Leu Ala Asp Thr Arg Val Thr Gln Ser Ser Ile Arg

Thr Pro Val Val Ser Ile Ser Ala Cys Ser Leu Phe Ser Gly His Ala 130 135 140

Asn Glu Phe Asp Gly Ser Asn Ser Thr Ser His Ala Leu Leu Val Leu 145 150 155 160

Val Gln Lys His Ile Lys Ala Val Leu Ser Asn Lys Leu Cys Leu Ser 165 170 175

Ile Ser Asn Leu Val Gln Gly Val Asn Val His Leu Gly Thr Leu Ile 180 185 190

Gly Leu Asn Pro Val Gly Pro Glu Ser Gln Ile Arg Tyr Ser Met Val 195 200 205

Ser Val Pro Thr Val Thr Ser Asp Tyr Ile Ser Leu Glu Val Asn Ala 210 215 220

Val Leu Phe Leu Leu Gly Lys Pro Ile Ile Leu Pro Thr Asp Ala Thr 225 230 235 240

Pro Phe Val Leu Pro Arg His Val Gly Thr Glu Gly Ser Met Ala Thr

Val Gly Leu Ser Gln Gln Leu Phe Asp Ser Ala Leu Leu Leu Gln 260 265 270 Lys Ala Gly Ala Leu Asn Leu Asp Ile Thr Gly Gln Leu Arg Ser Asp 275 280 285

Asp Asn Leu Leu Asn Thr Ser Ala Leu Gly Arg Leu Ile Pro Glu Val 290 295 300

Ala Arg Gln Phe Pro Glu Pro Met Pro Val Val Leu Lys Val Arg Leu 305 . 310 315 320

Gly Ala Thr Pro Val Ala Met Leu His Thr Asn Asn Ala Thr Leu Arg 325 330 335

Leu Gln Pro Phe Val Glu Val Leu Ala Thr Ala Ser Asn Ser Ala Phe 340 345 350

Gln Ser Leu Phe Ser Leu Asp Val Val Val Asn Leu Arg Leu Gln Leu 355 360 365

Ser Val Ser Lys Val Lys Leu Gln Gly Thr Thr Ser Val Leu Gly Asp 370 375 380

Val Gln Leu Thr Val Ala Ser Ser Asn Val Gly Phe Ile Asp Thr Asp 385 390 395 400

Gln Val Arg Thr Leu Met Gly Thr Val Phe Glu Lys Pro Leu Leu Asp 405 410 415

His Leu Asn Ala Leu Leu Ala Met Gly Ile Ala Leu Pro Gly Val Val
420 425 430

Asn Leu His Tyr Val Pro Leu Arg Ser Leu Ser Met Arg Ala Thr Trp 435 440 445

<210> 33

<211> 183

<212> PRT

<213> Homo sapiens

<400> 33

Met Glu Pro Glu Glu Gly Thr Pro Leu Trp Arg Leu Gln Lys Leu Pro

1 5 10 15

Ala Glu Leu Gly Pro Gln Leu Leu His Lys Ile Ile Asp Gly Ile Cys

Gly Arg Ala Tyr Pro Val Tyr Gln Asp Tyr His Thr Val Trp Glu Ser 35 40 45

Glu Glu Trp Met His Val Leu Glu Asp Ile Ala Lys Phe Phe Lys Ala
50 55 60

Ile Val Gly Lys Asn Leu Pro Asp Glu Glu Ile Phe Gln Gln Leu Asn 65 70 75 80

Gln Leu Asn Ser Leu His Gln Glu Thr Ile Met Lys Cys Val Lys Ser 85 90 95

Arg Lys Asp Glu Ile Lys Gln Ala Leu Ser Arg Glu Ile Val Ala Ile 100 105 110

Ser Ser Ala Gln Leu Gln Asp Phe Asp Trp Gln Val Lys Leu Ala Leu 115 120 125

Ser Ser Asp Lys Ile Ala Ala Leu Arg Met Pro Leu Leu Ser Leu His 130 135 140

Leu Asp Val Lys Glu Asn Gly Glu Val Lys Pro Tyr Ser Ile Glu Met 145 150 155 160

Ser Arg Glu Glu Leu Gln Asn Leu Ile Gln Ser Leu Glu Ala Ala Asn 165 170 175

Lys Val Val Leu Gln Leu Lys 180

<210> 34

<211> 121

<212> PRT

<213> Homo sapiens

<400> 34

Met Pro Cys Gly Arg Gln His Leu Gln Asn Leu Asp Asp Ala Val Asn 1 5 10 15

Gly Ser Ala Trp Thr Ile Leu Leu Leu Thr Glu Asn Phe Leu Arg Asp 20 25 30

Thr Trp Cys Asn Phe Gln Phe Tyr Thr Ser Leu Met Asn Ser Val Asn 35 40 45

Arg Gln His Lys Tyr Asn Ser Val Ile Pro Met Arg Pro Leu Asn Asn 50 55 60

Pro Leu Pro Arg Glu Arg Thr Pro Phe Ala Leu Gln Thr Ile Asn Ala 65 70 75 80

Leu Glu Glu Glu Ser Arg Gly Phe Pro Thr Gln Val Glu Arg Ile Phe 85 90 95

Gln Glu Ser Val Tyr Lys Thr Gln Gln Thr Ile Trp Lys Glu Thr Arg 100 105 110

Asn Met Val Gln Arg Gln Phe Ile Ala 115 120

<210> 35

<211> 251

<212> PRT

<213> Homo sapiens

<400> 35

Met Leu Phe His Tyr Asp Trp Ile Ser Ile Pro Leu Val Tyr Thr Gln
1 5 10 15

Val Val Thr Ile Ala Val Tyr Ser Phe Phe Ala Leu Ser Leu Val Gly
20 25 30

Arg Gln Phe Val Glu Pro Glu Ala Gly Ala Ala Lys Pro Gln Lys Leu 35 40 45

Leu Lys Pro Gly Gln Glu Pro Ala Pro Ala Leu Gly Asp Pro Asp Met 50 55 60

Tyr Val Pro Leu Thr Thr Leu Leu Gln Phe Phe Tyr Ala Gly Trp
65 70 75 80

Leu Lys Val Ala Glu Gln Ile Ile Asn Pro Phe Gly Glu Asp Asp Asp 85 90 95

Asp Phe Glu Thr Asn Gln Leu Ile Asp Arg Asn Leu Gln Val Ser Leu 100 105 110

Leu Ser Val Asp Glu Met Tyr Gln Asn Leu Pro Pro Ala Glu Lys Asp 115 120 125

Gln Tyr Trp Asp Glu Asp Gln Pro Gln Pro Pro Tyr Thr Val Ala Thr 130 135 140

Ala Ala Glu Ser Leu Arg Pro Ser Phe Leu Gly Ser Thr Phe Asn Leu 145 150 155 160

Arg Met Ser Asp Asp Pro Glu Gln Ser Leu Gln Val Glu Ala Ser Pro 165 170 175

Gly Ser Gly Arg Pro Ala Pro Ala Ala Gln Thr Pro Leu Leu Gly Arg 180 185 190

Phe Leu Gly Val Gly Ala Pro Ser Pro Ala Ile Ser Leu Arg Asn Phe 195 200 205

Gly Arg Val Arg Gly Thr Pro Arg Pro Pro His Leu Leu Arg Phe Arg 210 215 220

Ala Glu Glu Gly Gly Asp Pro Glu Ala Ala Ala Arg Ile Glu Glu 225 230 235 240

Ser Ala Glu Ser Gly Asp Glu Ala Leu Glu Pro 245 250

<210> 36

<211> 125

<212> PRT

<213> Homo sapiens

<400> 36

Met Arg Pro Gly Lys Lys Val Leu Val Met Gly Ile Val Asp Leu Asn 1 5 10 15

Pro Glu Ser Phe Ala Ile Ser Leu Thr Cys Gly Asp Ser Glu Asp Pro 20 25 30

Pro Ala Asp Val Ala Ile Glu Leu Lys Ala Val Phe Thr Asp Arg Gln
35 40 45

Leu Leu Arg Asn Ser Cys Ile Ser Gly Glu Arg Gly Glu Glu Gln Ser

Ala Ile Pro Tyr Phe Pro Phe Ile Pro Asp Gln Pro Phe Arg Val Glu 65 70 75 80

Ile Leu Cys Glu His Pro Arg Phe Arg Val Phe Val Asp Gly His Gln 85 90 95

Leu Phe Asp Phe Tyr His Arg Ile Gln Thr Leu Ser Ala Ile Asp Thr 100 105 110

Ile Lys Ile Asn Gly Asp Leu Gln Ile Thr Lys Leu Gly
115 120 125

<210> 37

<211> 170

<212> PRT

<213> Homo sapiens

<400> 37

Met Ile Ser Ile His Asn Glu Glu Glu Asn Ala Phe Ile Leu Asp Thr 1 5 10 15

Leu Lys Lys Gln Trp Lys Gly Pro Asp Asp Ile Leu Leu Gly Met Phe . 20 25 30

Tyr Asp Thr Asp Asp Ala Ser Phe Lys Trp Phe Asp Asn Ser Asn Met
35 40 45

Thr Phe Asp Lys Trp Thr Asp Gln Asp Asp Asp Glu Asp Leu Val Asp 50 55 60

Thr Cys Ala Phe Leu His Ile Lys Thr Gly Glu Trp Lys Lys Gly Asn 65 70 75 80

Cys Glu Val Ser Ser Val Glu Gly Thr Leu Cys Lys Thr Ala Ile Pro 85 90 95

Tyr Lys Arg Lys Tyr Leu Ser Asp Asn His Ile Leu Ile Ser Ala Leu 100 105 110

Val Ile Ala Ser Thr Val Ile Leu Thr Val Leu Gly Ala Ile Ile Trp 115 120 125

Phe Leu Tyr Lys Lys His Ser Asp Ser Arg Phe Thr Thr Val Phe Ser 130 135 140

Thr Ala Pro Gln Ser Pro Tyr Asn Glu Asp Cys Val Leu Val Val Gly
145 150 155 160

Glu Glu Asn Glu Tyr Pro Val Gln Phe Asp 165 170

<210> 38

<211> 535

<212> PRT

<213> Homo sapiens

<400> 38

Met Leu Leu Leu Leu Leu Leu Pro Pro Leu Leu Cys Gly Arg Val 1 5 10 15

Gly Ala Lys Glu Gln Lys Asp Tyr Leu Leu Thr Met Gln Lys Ser Val 20 25 30

Thr Val Gln Glu Gly Leu Cys Val Ser Val Leu Cys Ser Phe Ser Tyr 35 40 45

Pro Gln Asn Gly Trp Thr Ala Ser Asp Pro Val His Gly Tyr Trp Phe 50 60

Arg Ala Gly Asp His Val Ser Arg Asn Ile Pro Val Ala Thr Asn Asn 65 70 75 80

Pro Ala Arg Ala Val Gln Glu Glu Thr Arg Asp Arg Phe His Leu Leu 85 90 95

Gly Asp Pro Gln Asn Lys Asp Cys Thr Leu Ser Ile Arg Asp Thr Arg 100 105 110

Glu Ser Asp Ala Gly Thr Tyr Val Phe Cys Val Glu Arg Gly Asn Met

Lys Trp Asn Tyr Lys Tyr Asp Gln Leu Ser Val Asn Val Thr Ala Ser 130 135 140

Gln Asp Leu Leu Ser Arg Tyr Arg Leu Glu Val Pro Glu Ser Val Thr 145 150 155 160

Val Gln Glu Gly Leu Cys Val Ser Val Pro Cys Ser Val Leu Tyr Pro 165 170 175

His Tyr Asn Trp Thr Ala Ser Ser Pro Val Tyr Gly Ser Trp Phe Lys 180 185 190

Glu Gly Ala Asp Ile Pro Trp Asp Ile Pro Val Ala Thr Asn Thr Pro

Ser Gly Lys Val Gln Glu Asp Thr His Gly Arg Phe Leu Leu Gly 210 215 220

Asp Pro Gln Thr Asn Asn Cys Ser Leu Ser Ile Arg Asp Ala Arg Lys 225 230 235 240

Gly Asp Ser Gly Lys Tyr Tyr Phe Gln Val Glu Arg Gly Ser Arg Lys 245 250 255 Trp Asn Tyr Ile Tyr Asp Lys Leu Ser Val His Val Thr Ala Leu Thr 260 265 270

His Met Pro Thr Phe Ser Ile Pro Gly Thr Leu Glu Ser Gly His Pro 275 280 285

Arg Asn Leu Thr Cys Ser Val Pro Trp Ala Cys Glu Gln Gly Thr Pro

Pro Thr Ile Thr Trp Met Gly Ala Ser Val Ser Ser Leu Asp Pro Thr 305 310 315 320

Ile Thr Arg Ser Ser Met Leu Ser Leu Ile Pro Gln Pro Gln Asp His 325 330 335

Gly Thr Ser Leu Thr Cys Gln Val Thr Leu Pro Gly Ala Gly Val Thr 340 345 350

Met Thr Arg Ala Val Arg Leu Asn Ile Ser Tyr Pro Pro Gln Asn Leu 355 360 365

Thr Met Thr Val Phe Gln Gly Asp Gly Thr Ala Ser Thr Thr Leu Arg 370 375 380

Asn Gly Ser Ala Leu Ser Val Leu Glu Gly Gln Ser Leu His Leu Val 385 390 395 400

Cys Ala Val Asp Ser Asn Pro Pro Ala Arg Leu Ser Trp Thr Trp Gly 405 410 415

Ser Leu Thr Leu Ser Pro Ser Gln Ser Ser Asn Leu Gly Val Leu Glu 420 425 430

Leu Pro Arg Val His Val Lys Asp Glu Gly Glu Phe Thr Cys Arg Ala 435 440 445

Gln Asn Pro Leu Gly Ser Gln His Ile Ser Leu Ser Leu Ser Leu Gln 450 455 460

Asn Glu Tyr Thr Gly Lys Met Arg Pro Ile Ser Gly Val Thr Leu Gly
465 470 475 480

Ala Phe Gly Gly Ala Gly Ala Thr Ala Leu Val Phe Leu Tyr Phe Cys 485 490 495

Ile Ile Phe Val Val Val Arg Ser Cys Arg Lys Lys Ser Ala Arg Pro 500 505 510

Ala Val Ala Trp Gly Ile Gln Ala Trp Arg Thr Gln Thr Leu Ser Gly 515 520 525

Ala Gln Pro Leu Arg Asp Pro 530 535

<210> 39 <211> 274

<212> PRT <213> Homo sapiens

<400> 39
Met Ser Ser Asn Gly Ile Pro Glu Cys Tyr Ala Glu Glu Asp Glu Phe
1 5 10 15

Ser Gly Leu Glu Thr Asp Thr Ala Val Pro Thr Glu Glu Ala Tyr Val

Ile Tyr Asp Glu Asp Tyr Glu Phe Glu Thr Ser Arg Pro Pro Thr Thr 35 40 45

Thr Glu Pro Ser Thr Thr Ala Thr Thr Pro Arg Val Ile Pro Glu Glu
50 55 60

Gly Ala Ile Ser Ser Phe Pro Glu Glu Glu Phe Asp Leu Ala Gly Arg
65 70 75 80

Lys Arg Phe Val Ala Pro Tyr Val Thr Tyr Leu Asn Lys Asp Pro Ser 85 90 95

Ala Pro Cys Ser Leu Thr Asp Ala Leu Asp His Phe Gln Val Asp Ser 100 105 110

Leu Asp Glu Ile Ile Pro Asn Asp Leu Lys Lys Ser Asp Leu Pro Pro 115 120 125

Gln His Ala Pro Arg Asn Ile Thr Val Val Ala Val Glu Gly Cys His 130 135 140

Ser Phe Val Ile Val Asp Trp Asp Lys Ala Thr Pro Gly Asp Val Val 145 150 155 160

Thr Gly Tyr Leu Val Tyr Ser Ala Ser Tyr Glu Asp Phe Ile Arg Asn 165 170 175

Lys Trp Ser Thr Gln Ala Ser Ser Val Thr His Leu Pro Ile Glu Asn 180 185 190

Leu Lys Pro Asn Thr Arg Tyr Tyr Phe Lys Val Gln Ala Gln Asn Pro 195 200 205

His Gly Tyr Gly Pro Ile Ser Pro Ser Val Ser Phe Val Thr Glu Ser 210 215 220

Asp Asn Pro Leu Leu Val Val Arg Pro Pro Gly Gly Glu Pro Ile Trp 225 230 235 240

Ile Pro Phe Ala Phe Lys His Asp Pro Ser Tyr Thr Asp Cys His Gly 245 250 255

Arg Gln Tyr Val Lys Arg Thr Leu Val Ser Lys Val Arg Gly Ser Trp
260 265 270

Ser Leu

<210> 40

<211> 468

<212> PRT

<213> Homo sapiens

<400> 40

Met Pro Ala Leu His Thr Leu Asn Leu Asp His Asn Leu Ile Asp Ala

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Leu Pro Pro Gly Ala Phe Ala Gln Leu Gly Gln Leu Ser Arg Leu Asp 20 25 30

Leu Thr Ser Asn Arg Leu Ala Thr Leu Ala Pro Asp Pro Leu Phe Ser

Arg Gly Arg Asp Ala Glu Ala Ser Pro Ala Pro Leu Val Leu Ser Phe 50 55 60

Ser Gly Asn Pro Leu His Cys Asn Cys Glu Leu Leu Trp Leu Arg Arg
65 70 75 80

Leu Ala Arg Pro Asp Asp Leu Glu Thr Cys Ala Ser Pro Pro Gly Leu 85 90 95

Ala Gly Arg Tyr Phe Trp Ala Val Pro Glu Gly Glu Phe Ser Cys Glu 100 105 110

Pro Pro Leu Ile Ala Arg His Thr Gln Arg Leu Trp Val Leu Glu Gly
115 120 125

Gln Arg Ala Thr Leu Arg Cys Arg Ala Leu Gly Asp Pro Ala Pro Thr 130 135 140

Met His Trp Val Gly Pro Asp Asp Arg Leu Val Gly Asn Ser Ser Arg 145 150 155 160

Ala Arg Ala Phe Pro Asn Gly Thr Leu Glu Ile Gly Ala Thr Gly Ala 165 170 175

Gly Asp Ala Gly Gly Tyr Thr Cys Ile Ala Thr Asn Pro Ala Gly Glu 180 185 190

Ala Thr Ala Arg Val Glu Leu Arg Val Leu Ala Leu Pro His Gly Gly
195 200 205

Asn Ser Ser Ala Glu Gly Gly Arg Pro Gly Pro Ser Asp Ile Ala Ala 210 215 220

Ser Ala Arg Thr Ala Ala Glu Gly Glu Gly Thr Leu Glu Ser Glu Pro 225 230 235 240

Ala Val Gln Val Thr Glu Val Thr Ala Thr Ser Gly Leu Val Ser Trp
245 250 255

Gly Pro Gly Arg Pro Ala Asp Pro Val Trp Met Phe Gln Ile Gln Tyr 260 265 270 Asn Ser Ser Glu Asp Glu Thr Leu Ile Tyr Arg Ile Val Pro Ala Ser 275 280 285

Ser His His Phe Leu Leu Lys His Leu Val Pro Gly Ala Asp Tyr Asp

Leu Cys Leu Leu Ala Leu Ser Pro Ala Ala Gly Pro Ser Asp Leu Thr 305 310 315 320

Ala Thr Arg Leu Leu Gly Cys Ala His Phe Ser Thr Leu Pro Ala Ser 325 330 335

Pro Leu Cys His Ala Leu Gln Ala His Val Leu Gly Gly Thr Leu Thr 340 345 350

Val Ala Val Gly Gly Val Leu Val Ala Ala Leu Leu Val Phe Thr Val 355 360 365

Ala Leu Leu Val Arg Gly Arg Gly Ala Gly Asn Gly Arg Leu Pro Leu 370 375 380

Lys Leu Ser His Val Gln Ser Gln Thr Asn Gly Gly Pro Ser Pro Thr 385 390 395 400

Pro Lys Ala His Pro Pro Arg Ser Pro Pro Pro Arg Pro Gln Arg Ser 405 410 415

Cys Ser Leu Asp Leu Gly Asp Ala Gly Cys Tyr Gly Tyr Ala Arg Arg 420 425 430

Leu Gly Gly Ala Trp Ala Arg Arg Ser His Ser Val His Gly Gly Leu 435 440 445

Leu Gly Ala Gly Cys Arg Gly Val Gly Gly Ser Ala Glu Arg Leu Glu 450 455 460

Glu Ser Val Val 465

<210> 41

<211> 203

<212> PRT

<213> Homo sapiens

<400> 41

Met Ala Arg Pro Arg Pro Arg Glu Tyr Lys Ala Gly Asp Leu Val Phe 1 5 10 15

Ala Lys Met Lys Gly Tyr Pro His Trp Pro Ala Arg Ile Asp Glu Leu 20 25 30

Pro Glu Gly Ala Val Lys Pro Pro Ala Asn Lys Tyr Pro Ile Phe Phe 35 40 45

Phe Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro 50 55 60

- Tyr Lys Glu Tyr Lys Asp Lys Phe Gly Lys Ser Asn Lys Arg Lys Gly 65 70 75 80
- Phe Asn Glu Gly Leu Trp Glu Ile Glu Asn Asn Pro Gly Val Lys Phe
 85 90 95
- Thr Gly Tyr Gln Ala Ile Gln Gln Gln Ser Ser Glu Thr Glu Gly
 100 105 110
- Glu Gly Gly Asn Thr Ala Asp Ala Ser Ser Glu Glu Glu Gly Asp Arg
- Val Glu Glu Asp Gly Lys Gly Lys Arg Lys Asn Glu Lys Ala Gly Ser 130 135 140
- Lys Arg Lys Lys Ser Tyr Thr Ser Lys Lys Ser Ser Lys Gln Ser Arg 145 150 155 160
- Lys Ser Pro Gly Asp Glu Asp Asp Lys Asp Cys Lys Glu Glu Glu Asn 165 170 175
- Lys Ser Ser Ser Glu Gly Gly Asp Ala Gly Asn Asp Thr Arg Asn Thr 180 185 190
- Thr Ser Asp Leu Gln Lys Thr Ser Glu Gly Thr 195 200

<210> 42

<211> 253

<212> PRT

<213> Homo sapiens

<400> 42

- Met Arg Ser Gly Lys Met Ala Pro Lys Pro Gln Ser Arg Cys Thr Ser 1 5 10 15
- Thr Arg Ser Ala Gly Glu Ala Pro Ser Glu Asn Gln Ser Pro Ser Lys
 20 25 30
- Gly Pro Glu Glu Ala Ser Ser Glu Val Gln Asp Thr Asn Glu Val His
- Val Pro Gly Asp Gln Asp Glu Pro Gln Thr Leu Gly Lys Lys Gly Ser 50 55 60
- Lys Asn Asn Ile Ser Val Tyr Met Thr Leu Asn Gln Lys Lys Ser Asp 65 70 75 80
- Ser Ser Ser Ala Ser Val Cys Ser Ile Asp Ser Thr Asp Asp Leu Lys
 85 90 95
- Ser Ser Asn Ser Glu Cys Ser Ser Ser Glu Ser Phe Asp Phe Pro Pro 100 105 110
- Gly Ser Met His Ala Pro Ser Thr Ser Ser Thr Ser Ser Ser Ser Lys
 115 120 125

Glu Glu Lys Lys Leu Ser Asn Ser Leu Lys Met Lys Val Phe Ser Lys 130 135 140

Asn Val Ser Lys Cys Val Thr Pro Asp Gly Arg Thr Ile Cys Val Gly 145 150 155 160

Asp Ile Val Trp Ala Lys Ile Tyr Gly Phe Pro Trp Trp Pro Ala Arg 165 170 175

Ile Leu Thr Ile Thr Val Ser Arg Lys Asp Asn Gly Leu Leu Val Arg 180 185 190

Gln Glu Ala Arg Ile Ser Trp Phe Gly Ser Pro Thr Thr Ser Phe Leu 195 200 205

Ala Leu Ser Gln Leu Ser Pro Phe Leu Glu Asn Phe Gln Ser Arg Phe 210 215 220

Asn Lys Lys Arg Lys Gly Leu Tyr Arg Lys Ala Ile Thr Glu Ala Ala 225 230 235 240

Lys Ala Ala Lys Gln Leu Thr Pro Glu Val Arg Ala Cys 245 250

<210> 43

<211> 314

<212> PRT

<213> Homo sapiens

<400> 43

Met Pro His Ala Phe Lys Pro Gly Asp Leu Val Phe Ala Lys Met Lys 1 5 10 15

Gly Tyr Pro His Trp Pro Ala Arg Ile Asp Asp Ile Ala Asp Gly Ala 20 25 30

Val Lys Pro Pro Pro Asn Lys Tyr Pro Ile Phe Phe Phe Gly Thr His
35 40 45

Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro Tyr Asp Lys Cys
50 55 60

Lys Asp Lys Tyr Gly Lys Pro Asn Lys Arg Lys Gly Phe Asn Glu Gly 65 70 75 80

Leu Trp Glu Ile Gln Asn Asn Pro His Ala Ser Tyr Ser Ala Pro Pro 85 90 95

Pro Val Ser Ser Ser Asp Ser Glu Ala Pro Glu Ala Asn Pro Ala Asp 100 105 110

Gly Ser Asp Ala Asp Glu Asp Asp Glu Asp Arg Gly Val Met Ala Val 115 120 125

Thr Ala Val Thr Ala Thr Ala Ala Ser Asp Arg Met Glu Ser Asp Ser 130 135 140 Asp Ser Asp Lys Ser Ser Asp Asn Ser Gly Leu Lys Arg Lys Thr Pro 145 150 155 160

Ala Leu Lys Met Ser Val Ser Lys Arg Ala Arg Lys Ala Ser Ser Asp 165 170 175

Leu Asp Gln Ala Ser Val Ser Pro Ser Glu Glu Glu Asn Ser Glu Ser 180 - 185 190

Ser Ser Glu Ser Glu Lys Thr Ser Asp Gln Asp Phe Thr Pro Glu Lys 195 200 205

Lys Ala Ala Val Arg Ala Pro Arg Arg Gly Pro Leu Gly Gly Arg Lys 210 215 220

Lys Lys Lys Ala Pro Ser Ala Ser Asp Ser Asp Ser Lys Ala Asp Ser 225 230 235 240

Asp Gly Ala Lys Pro Glu Pro Val Ala Met Ala Arg Ser Ala Ser Ser 245 250 255

Ser Ser Ser Ser Ser Ser Ser Ser Asp Ser Asp Val Ser Val Lys Lys 260 265 270

Pro Pro Arg Gly Arg Lys Pro Thr Glu Lys Pro Leu Pro Lys Pro Arg 275 280 285

Gly Arg Lys Pro Lys Pro Glu Arg Pro Pro Ser Ser Ser Ser Asp 290 295 300

Ser Asp Ser Asp Glu Val Asp Arg Ile Thr 305 310

<210> 44

<211> 86

<212> PRT

<213> Homo sapiens

<400> 44

Met Asn Arg Gly Asp Phe Leu Leu Ser Val Asn Gly Ala Ser Leu Ala 1 5 10 15

Gly Leu Ala His Gly Asn Val Leu Lys Val Leu His Gln Ala Gln Leu 20 25 30

His Lys Asp Ala Leu Val Val Ile Lys Lys Gly Met Asp Ġln Pro Arg 35 40 45

Pro Ser Ala Arg Gln Glu Pro Pro Thr Ala Asn Gly Lys Gly Leu Leu 50 55 60

Ser Arg Lys Thr Ile Pro Leu Glu Pro Gly Ile Gly Lys Met Ile Ile 65 70 75 80

Ser Thr Thr Ser Arg Leu

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<210> 45
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<212> PRT

<213> Homo sapiens

<400> 45

Met Ala Ala Ser Val Cys Ser Gly Leu Leu Gly Pro Arg Val Leu Ser

Trp Ser Arg Glu Leu Pro Cys Ala Trp Arg Ala Leu His Thr Ser Pro 20 25 30

Val Cys Ala Lys Asn Arg Ala Ala Arg Val Arg Val Ser Lys Gly Asp 35 40 45

Lys Pro Val Thr Tyr Glu Glu Ala His Ala Pro His Tyr Ile Ala His 50 55 60

Arg Lys Gly Trp Leu Ser Leu His Thr Gly Asn Leu Asp Gly Glu Asp 65 70 75 80

His Ala Ala Glu Arg Thr Val Glu Asp Val Phe Leu Arg Lys Phe Met 85 90 .95

Trp Gly Thr Phe Pro Gly Cys Leu Ala Asp Gln Leu Val Leu Lys Arg 100 105 110

Arg Gly Asn Gln Leu Glu Ile Cys Ala Val Val Leu Arg Gln Leu Ser 115 120 125

Pro His Lys Tyr Tyr Phe Leu Val Gly Tyr Ser Glu Thr Leu Leu Ser 130 135 140

Tyr Phe Tyr Lys Cys Pro Val Arg Leu His Leu Gln Thr Val Pro Ser 145 150 155 160

Lys Val Val Tyr Lys Tyr Leu 165

<210> 46

<211> 281

<212> PRT

<213> Homo sapiens

<400> 46

Met Gly Ser Arg Gly Gln Gly Leu Leu Leu Ala Tyr Cys Leu Leu Leu 1 5 10 15

Ala Phe Ala Ser Gly Leu Val Leu Ser Arg Val Pro His Val Gln Gly

Glu Gln Gln Glu Trp Glu Gly Thr Glu Glu Leu Pro Ser Pro Pro Asp 35 40 45

His Ala Glu Arg Ala Glu Glu Gln His Glu Lys Tyr Arg Pro Ser Gln 50 55 60

<211> 167

Asp Gln Gly Leu Pro Ala Ser Arg Cys Leu Arg Cys Cys Asp Pro Gly
65 70 75 80

Thr Ser Met Tyr Pro Ala Thr Ala Val Pro Gln Ile Asn Ile Thr Ile 85 90 95

Leu Lys Gly Glu Lys Gly Asp Arg Gly Asp Arg Gly Leu Gln Gly Lys
100 105 110

Tyr Gly Lys Thr Gly Ser Ala Gly Ala Arg Gly His Thr Gly Pro Lys 115 120 125

Gly Gln Lys Gly Ser Met Gly Ala Pro Gly Glu Arg Cys Lys Ser His 130 135 140

Tyr Ala Ala Phe Ser Val Gly Arg Lys Lys Pro Met His Ser Asn His 145 150 155 160

Tyr Tyr Gln Thr Val Ile Phe Asp Thr Glu Phe Val Asn Leu Tyr Asp 165 170 175

His Phe Asn Met Phe Thr Gly Lys Phe Tyr Cys Tyr Val Pro Gly Leu 180 185 190

Tyr Phe Phe Ser Leu Asn Val His Thr Trp Asn Gln Lys Glu Thr Tyr 195 200 205

Leu His Ile Met Lys Asn Glu Glu Glu Val Ala Ile Leu Phe Ala Gln 210 215 220

Val Gly Asp Arg Ser Ile Met Gln Ser Gln Ser Leu Met Leu Glu Leu 225 230 235 240

Arg Glu Gln Asp Gln Val Trp Val Arg Leu Tyr Lys Gly Glu Arg Glu 245 250 255

Asn Ala Ile Phe Ser Glu Glu Leu Asp Thr Tyr Ile Thr Phe Ser Gly 260 265 270

Tyr Leu Val Lys His Ala Thr Glu Pro 275 280

<210> 47

<211> 105

<212> PRT

<213> Homo sapiens

<400> 47

Met Lys Gly Ser Arg Ala Leu Leu Leu Val Ala Leu Thr Leu Phe Cys

1 10 15

Ile Cys Arg Met Ala Thr Gly Glu Asp Asn Asp Glu Phe Phe Met Asp 20 25 30

Phe Leu Gln Thr Leu Leu Val Gly Thr Pro Glu Glu Leu Tyr Glu Gly 35 40 45

Thr Leu Gly Lys Tyr Asn Val Asn Glu Asp Ala Lys Ala Ala Met Thr 50 55 60

Glu Leu Lys Ser Cys Ile Asp Gly Leu Gln Pro Met His Lys Ala Glu 65 70 75 80

Leu Val Lys Leu Leu Val Gln Val Leu Gly Ser Gln Asp Gly Ala Gly
85 90 95

Thr Asp Tyr Lys Asp Asp Asp Asp Lys 100 105

<210> 48

<211> 595

<212> PRT

<213> Homo sapiens

<400> 48

Met Leu Leu Leu Leu Leu Leu Pro Pro Leu Leu Cys Gly Arg Val 1 5 10 15

Gly Ala Lys Glu Gln Lys Asp Tyr Leu Leu Thr Met Gln Lys Ser Val 20 25 30

Thr Val Gln Glu Gly Leu Cys Val Ser Val Leu Cys Ser Phe Ser Tyr 35 40 45

Pro Gln Asn Gly Trp Thr Ala Ser Asp Pro Val His Gly Tyr Trp Phe 50 55 60

Arg Ala Gly Asp His Val Ser Arg Asn Ile Pro Val Ala Thr Asn Asn 65 70 75 80

Pro Ala Arg Ala Val Gln Glu Glu Thr Arg Asp Arg Phe His Leu Leu 85 90 95

Gly Asp Pro Gln Asn Lys Asp Cys Thr Leu Ser Ile Arg Asp Thr Arg 100 105 110

Glu Ser Asp Ala Gly Thr Tyr Val Phe Cys Val Glu Arg Gly Asn Met 115 120 125

Lys Trp Asn Tyr Lys Tyr Asp Gln Leu Ser Val Asn Val Thr Ala Ser 130 135 140

Gln Asp Leu Leu Ser Arg Tyr Arg Leu Glu Val Pro Glu Ser Val Thr 145 150 155 160

Val Gln Glu Gly Leu Cys Val Ser Val Pro Cys Ser Val Leu Tyr Pro 165 170 175

His Tyr Asn Trp Thr Ala Ser Ser Pro Val Tyr Gly Ser Trp Phe Lys 180 185 190

Glu Gly Ala Asp Ile Pro Trp Asp Ile Pro Val Ala Thr Asn Thr Pro 195 200 205

- Ser Gly Lys Val Gln Glu Asp Thr His Gly Arg Phe Leu Leu Gly 210 215 220
- Asp Pro Gln Thr Asn Asn Cys Ser Leu Ser Ile Arg Asp Ala Arg Lys 225 230 235 240
- Gly Asp Ser Gly Lys Tyr Tyr Phe Gln Val Glu Arg Gly Ser Arg Lys 245 250 255
- Trp Asn Tyr Ile Tyr Asp Lys Leu Ser Val His Val Thr Ala Leu Thr 260 265 270
- His Met Pro Thr Phe Ser Ile Pro Gly Thr Leu Glu Ser Gly His Pro
- Arg Asn Leu Thr Cys Ser Val Pro Trp Ala Cys Glu Gln Gly Thr Pro 290 295 300
- Pro Thr Ile Thr Trp Met Gly Ala Ser Val Ser Ser Leu Asp Pro Thr 305 310 315 320
- Ile Thr Arg Ser Ser Met Leu Ser Leu Ile Pro Gln Pro Gln Asp His 325 330 335
- Gly Thr Ser Leu Thr Cys Gln Val Thr Leu Pro Gly Ala Gly Val Thr 340 345 350
- Met Thr Arg Ala Val Arg Leu Asn Ile Ser Tyr Pro Pro Gln Asn Leu 355 360 365
- Thr Met Thr Val Phe Gln Gly Asp Gly Thr Ala Ser Thr Thr Leu Arg 370 375 380
- Asn Gly Ser Ala Leu Ser Val Leu Glu Gly Gln Ser Leu His Leu Val 385 390 395 400
- Cys Ala Val Asp Ser Asn Pro Pro Ala Arg Leu Ser Trp Thr Trp Gly
 405 410 415
- Ser Leu Thr Leu Ser Pro Ser Gln Ser Ser Asn Leu Gly Val Leu Glu 420 425 430
- Leu Pro Arg Val His Val Lys Asp Glu Gly Glu Phe Thr Cys Arg Ala 435 440 445
- Gln Asn Pro Leu Gly Ser Gln His Ile Ser Leu Ser Leu Ser Leu Gln 450 455 460
- Asn Glu Tyr Thr Gly Lys Met Arg Pro Ile Ser Gly Val Thr Leu Gly 465 470 475 480
- Ala Phe Gly Gly Ala Gly Ala Thr Ala Leu Val Phe Leu Tyr Phe Cys
 485 490 495
- Ile Ile Phe Val Val Val Arg Ser Cys Arg Lys Lys Ser Ala Arg Pro 500 505 510

Ala Val Gly Val Gly Asp Thr Gly Met Glu Asp Ala Asn Ala Val Arg 515 520 525

Gly Ser Ala Ser Gln Gly Pro Leu Ile Glu Ser Pro Ala Asp Asp Ser 530 535 540

Pro Pro His His Ala Pro Pro Ala Leu Ala Thr Pro Ser Pro Glu Glu 545 550 555 560

Gly Glu Ile Gln Tyr Ala Ser Leu Ser Phe His Lys Ala Arg Pro Gln 565 570 575

Tyr Pro Gln Glu Gln Glu Ala Ile Gly Tyr Glu Tyr Ser Glu Ile Asn 580 585 590

Ile Pro Lys 595

<210> 49

<211> 143

<212> PRT

<213> Homo sapiens

<400> 49

Met Glu Lys Phe Pro Trp Gln Lys Leu Arg Val Arg Thr Gly Cys Gly
1 5 10 15

Gly Pro Gln Val Cys Gly Gly Tyr His Leu Cys Leu Ala Val Leu Met 20 25 30

Gly Ile Pro Ser Pro Arg Glu Gly Cys Arg Ser Trp Asp Val Ala Ala 35 40 45

Glu Val Trp Thr Gln Arg Pro Arg Ala Ala Val Leu Leu Leu Thr Gly 50 55 60

Gly Gly Glu Arg Thr Pro Arg Thr Gln Pro Gly Thr Glu Glu Ala Thr 65 70 75 80

Gly Pro Gly Ala Cys Ala Gly Trp Ile Ala Gln Asp Thr Pro Asn Pro 85 90 95

Phe Ser Lys Ala Gly Ala Gly Ala Gly Gly Glu Gly Thr Arg Gln Ser 100 105 110

Ala Gly Arg Ala Gly Gly Glu Pro Gly Gly Gly Glu Gly Pro Trp 115 120 125

Val Arg Val Ser Trp Pro Pro Leu Leu Gln Gly Arg Gln Gly Gly 130 135 140

<210> 50

<211> 196

<212> PRT

<213> Homo sapiens

<400> 50

Met Leu Ser Leu Glu Phe Leu Ser Trp Ser Val Ser Pro Phe Pro Ser 1 5 . 10 15

Pro Arg His Pro Ser Thr Pro His Arg Ser His Arg Ala Ser Pro His 20 25 30

Pro Asp Arg Pro Pro Lys Asn Lys Gly Glu Val Ile Arg Ala Ser Ala 35 40 45

Ala Ser Arg Gln Thr Gln Gln Cys Arg Val Gly Val Leu Gly Val Leu 50 60

Asp Asp Pro Gly Pro Glu Leu Glu Leu Gln Glu Ala Ala Val Val
65 70 75 80

Arg Arg Leu Arg His Glu Ala Gly Lys Gly Gln Gly His Gln Arg Leu 85 90 95

Gln Glu Val Leu Gly Lys Leu His Ile Leu Pro Val Val Gln Pro Arg 100 105 110

Val Leu Gly His Asp Ala Ile Ala Gly Val Glu Gly Pro Gln Val His
115 120 125

Val Gln Val Val Ala Phe Ala Val Leu His Ala Glu Lys Val Ala Leu 130 135 140

Asp Arg Leu Leu Pro Tyr Glu Ala Ala Leu Ile His His Arg Ala Gly
145 150 155 160

Leu Cys Pro Pro Gln Leu Leu Ala Val Ala His Val Leu Gln Val Asp 165 170 175

Ala Gln Val His Val Val Val Pro Trp Asp Asp Val Pro Val Ala Gly 180 185 190

Gly Pro Gln Gln 195

<210> 51

<211> 160

<212> PRT

<213> Homo sapiens

<400> 51

Met Arg Glu Gly Trp His Trp Gln Glu Glu Ser Thr Arg Thr Arg Met

1 5 10 15

Gly Ser Asp Leu Gln Ile Tyr Gln Met Val Met Pro Thr Gly Ser Arg
20 25 30

Gly Tyr Ala Trp Gly His Pro Gly Ser Ser Gln Ser Trp Arg Glu Thr 35 40 45

Gly Met Ser Arg Arg Pro Ala Gly Pro Ser Thr Ala Pro Asp Pro Lys
50 60

Lys Val Phe Cys Pro Arg Phe Arg Glu Pro Cys Ala Leu Gly Gln Gly 65 70 75 80

Gln Ser Phe Gly Asn Ser Ala Gly Ser Gly Ala Arg Leu Ala Arg Phe 85 90 95

Lys Ser Trp Leu Tyr Arg Phe Gly Ala Arg Trp Ala Trp Gly Gly Val 100 105 110

Ala Val Ser Leu Cys Leu Ser Cys Phe Gln Asp Ala Gly Pro Leu Ala 115 120 125

Ala Gly Val Ala Ser Ala Thr Arg Gly Arg Ala Gly Pro Ala Pro Gly 130 135 140

Gly Pro Leu Trp Leu Pro Gly Asp Ser Thr Pro Arg Ala Cys Val Pro 145 150 155 160

<210> 52

<211> 226

<212> PRT

<213> Homo sapiens

<400> 52

Met Val Gln Gln Gly Leu Leu Lys Asn Gly Ala His Gln Cys Ala His
1 5 10 15

Leu Ile Cys Ile Asn Glu Ala His Val Gly Gly His Arg Glu Leu 20 25 30

Asp Ile Pro Gln His Arg Arg Gly Pro Leu Lys Leu His Leu Gly His 35 40 45

Arg Glu Leu Glu Ser Gln Val His Tyr His Ile Gln Gly Glu Glu Gly 50 60

Leu Glu Ser Arg Val Gly Gly Cys Gly Gln Asp Leu His Glu Gly Leu 65 70 75 80

Gln Pro Gln Gly Gly Val Val Cys Val Glu His Gly His Arg Cys Gly 85 90 95

Thr Gln Pro His Leu Glu His His Arg His Gly Leu Gly Lys Leu Ala 100 105 110

Gly His Leu Arg Asp Glu Pro Ala Gln Ser Arg Gly Val Gln Gln Val

Val Ile Arg Pro Gln Leu Pro Cys Asp Val Gln Val Glu Gly Thr Gly 130 135 140

Leu Leu Gln Gln Glu Arg Arg Val Lys Gln Leu Leu Gly Glu Ala 145 150 155 160 His Gly Gly His Gly Ala Leu Gly Thr His Met Pro Trp Gln His Lys 165 170 175

Arg Gly Gly Ile Arg Gly Gln Asp Asp Gly Leu Ala Gln Gln Glu Glu
180 185 190

Asn Ser Ile Asp Phe Gln Gly Asn Val Val Thr Gly Asp Ser Gly His
195 200 205

Thr Asp His Gly Ile Ala Asp Leu Gly Leu Arg Thr His Gly Val Glu 210 215 220

Ala Asn 225

<210> 53

<211> 164

<212> PRT

<213> Homo sapiens

<400> 53

Pro Gly Arg Pro Thr Arg Pro Leu Lys Phe Val Ile Leu His Ala Glu .

1 5 10 15

Asp Asp Thr Asp Glu Ala Leu Arg Val Gln Asn Leu Leu Gln Asp Asp . \$20\$

Phe Gly Ile Lys Pro Gly Ile Ile Phe Ala Glu Met Pro Cys Gly Arg 35 40 45

Gln His Leu Gln Asn Leu Asp Asp Ala Val Asn Gly Ser Ala Trp Thr
50 55 60

Ile Leu Leu Leu Thr Glu Asn Phe Leu Arg Asp Thr Trp Cys Asn Phe 65 70 75 80

Gln Phe Tyr Thr Ser Leu Met Asn Ser Val Asn Arg Gln His Lys Tyr 85 90 95

Asn Ser Val Ile Pro Met Arg Pro Leu Asn Asn Pro Leu Pro Arg Glu 100 105 110

Arg Thr Pro Phe Ala Leu Gln Thr Ile Asn Ala Leu Glu Glu Glu Ser 115 120 125

Arg Gly Phe Pro Thr Gln Val Glu Arg Ile Phe Gln Glu Ser Val Tyr 130 135 140

Lys Thr Gln Gln Thr Ile Trp Lys Glu Thr Arg Asn Met Val Gln Arg

Gln Phe Ile Ala

<211> 314

<212> PRT

<213> Homo sapiens

<400> 54

Arg Val Asp Pro Arg Val Arg Gly Arg Val Gly Phe Glu Ser Leu Lys
1 5 10 15

Ser Asp Phe Asn Lys Tyr Trp Val Pro Cys Val Trp Phe Thr Asn Leu 20 25 30

Ala Ala Gln Ala Arg Arg Asp Gly Arg Ile Arg Asp Asp Ile Ala Leu
35 40 45

Cys Leu Leu Glu Glu Leu Asn Lys Tyr Arg Ala Lys Cys Ser Met 50 60

Leu Phe His Tyr Asp Trp Ile Ser Ile Pro Leu Val Tyr Thr Gln Val 65 70 75 80

Val Thr Ile Ala Val Tyr Ser Phe Phe Ala Leu Ser Leu Val Gly Arg 85 90 95

Gln Phe Val Glu Pro Glu Ala Gly Ala Ala Lys Pro Gln Lys Leu Leu 100 105 110

Lys Pro Gly Gln Glu Pro Ala Pro Ala Leu Gly Asp Pro Asp Met Tyr 115 120 125

Val Pro Leu Thr Thr Leu Leu Gln Phe Phe Phe Tyr Ala Gly Trp Leu 130 135 140

Lys Val Ala Glu Gln Ile Ile Asn Pro Phe Gly Glu Asp Asp Asp 145 150 155 160

Phe Glu Thr Asn Gln Leu Ile Asp Arg Asn Leu Gln Val Ser Leu Leu 165 170 175

Ser Val Asp Glu Met Tyr Gln Asn Leu Pro Pro Ala Glu Lys Asp Gln 180 185 190

Tyr Trp Asp Glu Asp Gln Pro Gln Pro Pro Tyr Thr Val Ala Thr Ala 195 200 205

Ala Glu Ser Leu Arg Pro Ser Phe Leu Gly Ser Thr Phe Asn Leu Arg 210 215 220

Met Ser Asp Asp Pro Glu Gln Ser Leu Gln Val Glu Ala Ser Pro Gly 225 230 235 240

Ser Gly Arg Pro Ala Pro Ala Ala Gln Thr Pro Leu Gly Arg Phe 245 250 255

Leu Gly Val Gly Ala Pro Ser Pro Ala Ile Ser Leu Arg Asn Phe Gly 260 265 270

Arg Val Arg Gly Thr Pro Arg Pro Pro His Leu Leu Arg Phe Arg Ala 275 280 285 Glu Glu Gly Gly Asp Pro Glu Ala Ala Ala Arg Ile Glu Glu Glu Ser 290 295 300

Ala Glu Ser Gly Asp Glu Ala Leu Glu Pro 305 310

<210> 55

<211> 196

<212> PRT

<213> Homo sapiens

<400> 55

Asn Thr Thr His Tyr Arg Glu Ser Trp Tyr Ala Cys Arg Tyr Arg Ser 1 5 10 15

Gly Ile Pro Gly Ser Thr His Ala Ser Ala Gly Ser Val Ala Asp Ser 20 25 30

Asp Ala Val Lys Leu Asp Asp Gly His Leu Asn Asn Ser Leu Ser
35 40 45

Ser Pro Val Gln Ala Asp Val Tyr Phe Pro Arg Leu Ile Val Pro Phe 50 55 60

Cys Gly His Ile Lys Gly Gly Met Arg Pro Gly Lys Lys Val Leu Val 65 70 75 80

Met Gly Ile Val Asp Leu Asn Pro Glu Ser Phe Ala Ile Ser Leu Thr 85 · 90 95

Cys Gly Asp Ser Glu Asp Pro Pro Ala Asp Val Ala Ile Glu Leu Lys 100 105 110

Ala Val Phe Thr Asp Arg Gln Leu Leu Arg Asn Ser Cys Ile Ser Gly
115 120 125

Glu Arg Gly Glu Glu Gln Ser Ala Ile Pro Tyr Phe Pro Phe Ile Pro 130 135 140

Asp Gln Pro Phe Arg Val Glu Ile Leu Cys Glu His Pro Arg Phe Arg 145 150 155 160

Val Phe Val Asp Gly His Gln Leu Phe Asp Phe Tyr His Arg Ile Gln
165 170 175

Thr Leu Ser Ala Ile Asp Thr Ile Lys Ile Asn Gly Asp Leu Gln Ile 180 185 190

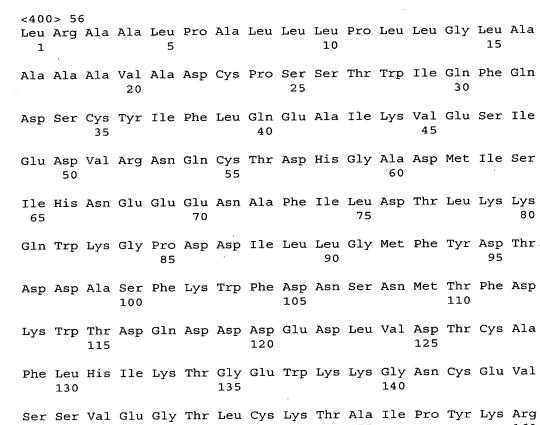
Thr Lys Leu Gly 195

<210> 56

<211> 231

<212> PRT

<213> Homo sapiens



Lys Lys His Ser Asp Ser Arg Phe Thr Thr Val Phe Ser Thr Ala Pro

Ser Thr Val Ile Leu Thr Val Leu Gly Ala Ile Ile Trp Phe Leu Tyr

Lys Tyr Leu Ser Asp Asn His Ile Leu Ile Ser Ala Leu Val Ile Ala

170

195 200 205

Gln Ser Pro Tyr Asn Glu Asp Cys Val Leu Val Val Gly Glu Glu Asn 210 215 220

Glu Tyr Pro Val Gln Phe Asp 225 230

<210> 57 <211> 367 <212> PRT <213> Homo sapiens

<400> 57 Met Ser Ser Asn Gly Ile Pro Glu Cys Tyr Ala Glu Glu Asp Glu Phe

Ser Gly Leu Glu Thr Asp Thr Ala Val Pro Thr Glu Glu Ala Tyr Val

Ile	Tyr	Asp 35	Glu	Asp	Tyr	Glu	Phe 40	Glu	Thr	Ser	Arg	Pro 45	Pro	Thr	Thr
Thr	Glu 50	Pro	Ser	Thr	Thr	Ala 55	Thr	Thr	Pro	Arg	Val 60	Ile	Pro	Glu	Glu
Gly 65	Ala	Ile	Ser	Ser	Phe 70	Pro	Glu	Glu	Glu	Phe 75	Asp	Leu	Ala	Gly	Arg 80
Lys	Arg	Phe	Val	Ala 85	Pro	Tyr	Val	Thr	Tyr 90	Leu	Asn	Lys	Asp	Pro 95	Ser
Ala	Pro	Cys	Ser 100	Leu	Thr	Asp	Ala	Leu 105	Asp	His	Phe	Gln	Val 110	Asp	Ser
Leu	Asp	Glu 115	Ile	Ile	Pro	Asn	Asp 120	Leu	Lys	Lys	Ser	Asp 125	Leu	Pro	Pro
Gln	His 130	Ala	Pro	Arg	Asn	Ile 135	Thr	Val	Val	Ala	Val 140	Glu	Gly	Cys	His
Ser 145	Phe	Val	Ile	Val	Asp 150	Trp	Asp	Lys	Ala	Thr 155	Pro	Gly	Asp	Val	Val 160
Thr	Gly	Tyr	Leu	Val 165	Tyr	Ser	Ala	Ser	Tyr 170	Glu	Asp	Phe	Ile	Arg 175	Asn
Lys	Trp	Ser	Thr 180	Gln	Ala	Ser	Ser	Val 185	Thr	His	Leu	Pro	Ile 190	Glu	Asn
Leu	Lys	Pro 195	Asn	Thr	Arg	Tyr	Tyr 200		Lys	Val	Gln	Ala 205	Gln	Asn	Pro
His	Gly 210	Tyr	Gly	Pro	Ile	Ser 215		Ser	Val	Ser	Phe 220	Val	Thr	Glu	Ser
Asp 225		Pro	Leu	Leu	Val 230		Arg	Pro	Pro	Gly 235		Glu	Pro	Ile	Trp 240
Ile	Pro	Phe	Ala	Phe 245		His	Asp	Pro	Ser 250	Tyr	Thr	Asp	Cys	His 255	Gly
Arg	Gln	Tyr	Val	Lys	Arg	Thr	Trp	Tyr	Arg	Lys	Phe	Val	Gly	Val	Val

Leu Cys Asn Ser Leu Arg Tyr Lys Ile Tyr Leu Ser Asp Asn Leu Lys 280

Asp Thr 290

Phe Tyr Ser Ile Gly Asp Ser Trp Gly Arg Gly Glu Asp His 300

Cys Gln Phe Val Asp Ser 310

Leu Asp Gly Arg Thr Gly Pro Gln Ser 320

Tyr Val Glu Ala Leu Pro Thr Ile Gln Gly Tyr Tyr Arg Gln Tyr Arg 325 330 335



Gln Glu Pro Val Arg Phe Gly Asn Ile Gly Phe Gly Thr Pro Tyr Tyr

Tyr Val Gly Trp Tyr Glu Cys Gly Val Ser Ile Pro Gly Lys Trp 355 360 365

<210> 58

<211> 565

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (270)

<223> Xaa equals any of the naturally occurring L-amino acids

:400> 58

Met Thr Gly Leu Val Asp Leu Thr Leu Ser Arg Asn Ala Ile Thr Arg 1 5 10 15

Ile Gly Ala Arg Ala Phe Gly Asp Leu Glu Ser Leu Arg Ser Leu His 20 25 30

Leu Asp Gly Asn Arg Leu Val Glu Leu Gly Thr Gly Ser Leu Arg Gly 35 40 45

Pro Val Asn Leu Gln His Leu Ile Leu Ser Gly Asn Gln Leu Gly Arg
50 55 60

Ile Ala Pro Gly Ala Phe Asp Asp Phe Leu Glu Ser Leu Glu Asp Leu 65 70 75 80

Asp Leu Ser Tyr Asn Asn Leu Arg Gln Val Pro Trp Ala Gly Ile Gly 85 90 95

Ala Met Pro Ala Leu His Thr Leu Asn Leu Asp His Asn Leu Ile Asp 100 105 110

Ala Leu Pro Pro Gly Ala Phe Ala Gln Leu Gly Gln Leu Ser Arg Leu 115 120 125

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Ser Arg Gly Arg Asp Ala Glu Ala Ser Pro Ala Pro Leu Val Leu Ser 145 150 155 160

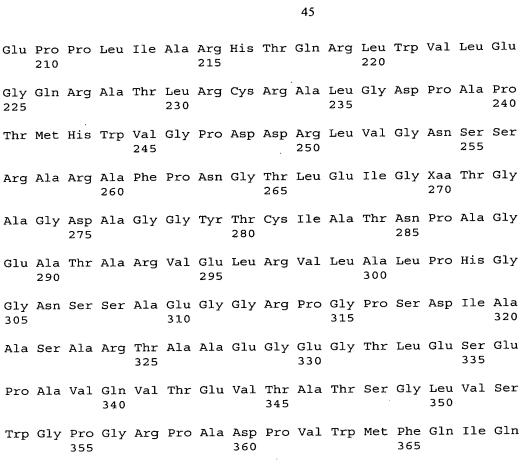
Phe Ser Gly Asn Pro Leu His Cys Asn Cys Glu Leu Leu Trp Leu Arg 165 170 175

Arg Leu Ala Arg Pro Asp Asp Leu Glu Thr Cys Ala Ser Pro Pro Gly
180 185 190

Leu Ala Gly Arg Tyr Phe Trp Ala Val Pro Glu Gly Glu Phe Ser Cys
195 200 205







Tyr Asn Ser Ser Glu Asp Glu Thr Leu Ile Tyr Arg Ile Val Pro Ala 370 Ser Ser His His Phe Leu Leu Lys His Leu Val Pro Gly Ala Asp Tyr 385 390 400

Asp Leu Cys Leu Leu Ala Leu Ser Pro Ala Ala Gly Pro Ser Asp Leu 405 410 415

Thr Ala Thr Arg Leu Leu Gly Cys Ala His Phe Ser Thr Leu Pro Ala 420 425 430

Ser Pro Leu Cys His Ala Leu Gln Ala His Val Leu Gly Gly Thr Leu 435 440 445

Thr Val Ala Val Gly Gly Val Leu Val Ala Ala Leu Leu Val Phe Thr 450 455 460

Val Ala Leu Leu Val Arg Gly Arg Gly Ala Gly Asn Gly Arg Leu Pro 465 470 475 480

Leu Lys Leu Ser His Val Gln Ser Gln Thr Asn Gly Gly Pro Ser Pro 485 490 495

Thr Pro Lys Ala His Pro Pro Arg Ser Pro Pro Pro Arg Pro Gln Arg 500 505 510

Ser Cys Ser Leu Asp Leu Gly Asp Ala Gly Cys Tyr Gly Tyr Ala Arg



515

520

Arg Leu Gly Gly Ala Trp Ala Arg Arg Ser His Ser Val His Gly Gly 530 540

Leu Leu Gly Ala Gly Cys Arg Gly Val Gly Gly Ser Ala Glu Arg Leu 545 550 555 560

Glu Glu Ser Val Val 565

<210> 59

<211> 139

<212> PRT

<213> Homo sapiens

<400> 59

Met Glu Lys Ala Lys Glu Arg Met Lys Lys Gln Ala Gln Asn Gly Lys 1 5 10 15

Ser His Ile Leu Gln Arg Asn Pro Leu Asn Ser Pro Gly Asn Leu Gln
20 25 30

Glu Met Lys Met Thr Lys Thr Ala Lys Lys Arg Lys Thr Lys Ala Ala
35 40 45

Leu Arg Val Glu Met Arg Ala Thr Thr Gln Glu Thr Gln Leu Gln Thr 50 55 60

Cys Arg Lys Pro Val Lys Gly Pro Asn Tyr His Asn Glu Cys Cys Ile 65 70 75 80

Leu Arg Glu Thr Thr Arg Arg Leu Tyr Val Trp Leu Ser Asn Ile Leu 85 90 95

Gly Phe Asp Met Asn Gln His Ile Val Leu Val Val Ile Asp Arg Thr 100 105 110

Pro Val Cys Met Tyr Ile Ile His Ile Pro Leu Cys Cys Val Ser Gly
115 120 125

Gly Lys Asp Ile Leu Ala Phe Phe Lys Ser Tyr 130 135

<210> 60

<211> 145

<212> PRT

<213> Homo sapiens

<400> 60

Met Ala Arg Pro Arg Pro Arg Glu Tyr Lys Ala Gly Asp Leu Val Phe 1 5 10 15

Ala Lys Met Lys Gly Tyr Pro His Trp Pro Ala Arg Ile Asp Glu Leu 20 25 30





Pro Glu Gly Ala Val Lys Pro Pro Ala Asn Lys Tyr Pro Ile Phe Phe 35 40 45

Phe Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro 50 55 60

Tyr Lys Glu Tyr Lys Asp Lys Phe Gly Lys Ser Asn Lys Arg Lys Gly 65 70 75 80

Phe Asn Glu Gly Leu Trp Glu Ile Glu Asn Asn Pro Gly Val Lys Phe
85 90 95

Thr Gly Tyr Gln Ala Ile Gln Gln Ser Ser Ser Glu Thr Glu Gly
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Val Glu Glu Asp Gly Lys Gly Lys Lys Lys Lys Lys Asn Leu Val Pro 130 135 140

Asn 145

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<213> Homo sapiens

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His Pro Val Leu Leu Val Ile Val Val Leu Val Ile Gly Thr Gly Thr 35 40 45

Val Leu Thr Ala Gln His Leu His Gln Gln Leu Asp Gln Leu Arg Leu 50 55 60

Val His Trp Leu Gln Ala Ile Tyr Ala Gly Leu Glu Phe Ser His Cys 65 70 75 80

Cys Leu Gly Ile Phe Val Asp Ile Val Leu Ala Gln Gly Pro Leu Ile 85 90 95

Glu Leu Leu Trp Gly Pro His Gln 100